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COUNTY COUNCIL OF BERWICK.



ANNUAL REPORT

ON THE

Health and Sanitary Condition
of the County and Districts,

BY

ANDREW A. MCWHAN,

M.B., B.S.C., D.P.H.,

MEDICAL OFFICER OF HEALTH.

YEAR 1925.

Berwick-on-Tweed :

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COUNTY OF BERWICK.

Report by the Medical Officer of Health
for the Year 1925.

*To the Scottish Board of Health ; to the County
Council of Berwick, and District Committees
thereof.*

My Lords and Gentlemen,

In conformity with the requirements of the Local Government (Scotland) Act, 1889, Section 53, the Public Health (Scotland) Act, 1897, Section 15, and the Regulations of the Scottish Board of Health, I have the honour to submit to you my Report on the Health, Vital Statistics, and General Sanitary Conditions of the County of Berwick and its several Districts for the year 1925.

I am,

My Lords and Gentlemen,

Your obedient servant,

ANDREW A. McWHAN.

County Offices,

Duns,

19th August, 1926.

Annual Report by Medical Officer of Health.

The Board, in virtue of their powers under Section 15 of the Public Health (Scotland) Act, 1897, hereby call upon every Medical Officer of Health of a District of a County, or of any part thereof, to prepare annually a Report with regard to his district for the year ending 31st December. The Report shall contain :—

- a. A general account of influences and conditions injurious or dangerous to the health of the district, and of the measures that in his opinion should be adopted for its improvement.
- b. A statement of the general enquiries he has made during the year, and of any special enquiries as to sanitary matters.
- c. A general statement of any matters as to which he has given advice or granted certificates, including any action as to offensive trades.
- d. A specific account of the administration of the Factory and Workshop Act, 1901, in workshops and workplaces, in terms of Section 132 of that Act, together with a tabular statement in the form required by the Home Office. Special attention is directed to the Board's Circular of 14th November, 1921, regarding Sections 61, 97-100, 109, and 110 of the Act.
- e. An account of any proceedings under the Housing (Scotland) Acts, dealing specifically with (1) the sufficiency of working class dwellings, (2) the habitability of existing dwellings and the action taken to deal with defective or uninhabitable dwellings, (3) any schemes under consideration or contemplated for the improvement of insanitary areas under Part II. of the Housing (Scotland) Act, 1925, and (4) the action taken where instances of overcrowding have been ascertained or suspected*. In regard to (1) information should be given as to the number of houses estimated at 31st December, 1925, as then required adequately to meet the needs of the district of the Local Authority (including houses required to replace houses at present occupied that should be closed and demolished).
- f. A statement showing whether any conditions have arisen, or are expected to arise, pointing to the expediency of a town-planning scheme for the proper control of further development.

*N.B.—Where the Medical Officer of Health has been designated by the Local Authority as the Officer who is to act under Article 1. (3) of the Housing (Inspection of District) Regulations, 1910, the information required in the Form of Report issued with the Board's Circular of 15th December, 1925, shall be sent direct to the Board. The information contained therein should also be included in his Annual Report.

- g.* An account of the presence or absence of pollution of rivers or streams in the district, the sources and nature of any such pollution, and any action taken to check it.
- h.* An account of the hospital accommodation available for persons suffering from infectious disease in general, and smallpox in particular (including the means provided for the conveyance of such persons), and of the houses of reception, with observations on the furnishing, maintenance, administration, and adequacy of such accommodation, &c.
- i.* An account of the premises, with necessary apparatus and attendance available for the destruction or disinfection of infected articles (including the means for the conveyance and return of such articles), also of other processes of disinfection in use, with observations on the adequacy of such arrangements and processes.
- j.* An account of the action taken to prevent the outbreak and spread of infectious disease.
- k.* A statement of any action taken (a) for the control of acute primary pneumonia, acute influenzal pneumonia, malaria, dysentery, and trench fever, under the Public Health (Pneumonia, Malaria, Dysentery, &c.) Regulations (Scotland), 1919, and (b) with regard to "carriers" under the Public Health (Infectious Disease Carriers) Regulation (Scotland), 1921.
- l.* A statement of the facilities available for the treatment of persons suffering from venereal diseases.
- m.* A statement as to the causes, origin, and distribution of diseases within the district, and the extent to which the same have depended on or have been influenced by conditions capable of removal or mitigation.
- n.* A statement of the measures adopted for the administrative control of tuberculosis. (In cases where this work is being undertaken by the County Council in terms of Section 41 (3) of the National Insurance Act, 1913, the information under this heading should be given by the County Medical Officer).
- o.* A statement of the arrangements made and work performed under the Scheme of Maternity Service and Child Welfare, and of other relevant particulars in the form appended to this circular. Medical Officers of Health of Local Authorities that have no scheme of maternity service and child welfare or that are members of Combination Authorities for maternity service and child welfare in terms of the Notification of Births (Extension) Act, 1915, need not furnish the particulars in the appended statement, except under headings 1-4 inclusive.
- p.* A report on the working of the Notification of Births Act, 1907. (This applies to areas where a scheme of maternity service and child welfare has not yet been carried into operation).

- g. A statement of the arrangements made by the Local Authority for the administration of the Milk and Dairies (Scotland) Act, 1914, and of any action taken under the Milk and Dairies (Amendment) Act, 1922, and the various Regulations dealing with milk and milk products.
- r. An account of the work done under Section 43 of the Public Health (Scotland) Act, 1897, for the inspection of meat and other articles of food ; and a statement of work done and of arrangements that ought yet to be made under the Public Health (Meat) Regulations (Scotland), 1924, observations on oversea meat, unsound food, food inspection, and the sanitary condition of premises where foods are manufactured, prepared, stored, or exposed for sale, indicating any important respects in which existing powers have been found inadequate for dealing with insanitary conditions in such places.
- s. A report on the work done by the Local Authority under the Sale of Food and Drugs Acts, with observations on any special questions which have received or require attention.†
- t. An account of any proceedings under the Rag Flock Act, 1911.†
- u. A tabular statement, in such form as the Scottish Board of Health may from time to time direct (1) of the cases of infectious disease notified in the district, and (2) of the infantile mortality within the district. Where the Medical Officer of Health has information shewing the number of cases of infectious disease occurring in houses of different sizes, he should record it in tabular form under this heading.

†Information under these headings is required only in cases where the Medical Officer of Health or Sanitary Inspector has been appointed to deal with the Acts or Orders.

Administrative Services.

The difficulties experienced in the year 1924, between the constant sickness of the Health Visitors and nurses, on the one hand, and the outbreak of Scarlet Fever on the other, somewhat lessened towards the end of 1925. For the first three months of the year conditions were almost worse than at any time during 1924. The Scarlet Fever outbreak of 1924 continued to spread, while a large amount of attention was called for on behalf of tuberculosis cases, treatment for no fewer than 50 being arranged for in the first three months of the year. During that time I had only one Health Visitor,

Miss Tait, who was necessarily almost entirely engaged in connection with infectious disease, tuberculosis and such matters. A second Health Visitor, Miss MacIntosh, started duty on the 15th of May, and as by that time the pressure from the Scarlet Fever outbreak had died down, it was possible to make a start again with the Child Welfare visitation over their areas of the county, and the succeeding pages of this Report and also the Report of the Education Authority for the School year ending 31st July, 1925-1926, will show what has been carried through during the year.

That work could only have been carried through by the whole-hearted co-operation of all who share in it and I desire specially to acknowledge the valuable help received from my headquarters' staff, Dr Young, medical officer of, and Miss Ewing, matron of Gordon Hospital, Dr Cameron, medical superintendent of East Fortune Sanatorium, and the medical practitioners of the county.

Density of Population.

The area of Berwickshire, exclusive of the Burghs, is 291,732 acres or 455.83 square miles. The average densities, according to the last census, are 0.075 persons to the acre or 48.2 to the square mile.

Causes of Death (Corrected for Transfers).

	East District.	Middle District.	West District.	Coldstream Burgh.	Byomouth Burgh.	Lauder Burgh.	All Berwickshire (excluding Duns Burgh).
Enteric Fever	0	0	0	0	0	0	0
Typhus Fever	0	0	0	0	0	0	0
Smallpox	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0
Scarlet Fever	0	2	0	0	0	0	2
Whooping Cough	1	0	2	0	1	0	4
Diphtheria	0	2	0	0	0	0	2
Influenza	4	4	1	1	0	2	12
Encephalitis Lethargica	0	1	1	0	0	0	2
Cerebro-Spinal Meningitis	0	0	0	0	0	0	0
Other Epidemic Diseases	0	0	0	0	1	0	1
Tuberculosis of Respiratory System	9	3	2	3	6	1	24
Tuberculous Meningitis	0	0	0	0	0	0	0
Tuberculosis of Intestines and Peritoneum	0	0	1	0	0	0	1
Other Tuberculous Disease	0	0	0	0	0	0	0
Malignant Tumours	14	6	9	2	1	0	32
Rheumatic Fever	0	0	0	0	0	1	1
Meningitis (not Cer., Spin., or Tuberc.)	1	0	2	0	0	0	3
Apoplexy	13	10	11	2	4	2	42
Heart Disease	17	8	13	2	6	0	46
Diseases of Arteries	2	1	2	0	0	0	5
Bronchitis	8	6	3	0	5	1	23
Pneumonia (all forms)	3	8	1	4	0	0	16
Other Diseases of Respiratory System	3	1	0	0	0	0	4
Diarrhoea and Enteritis (under 2 years)	0	1	0	0	0	0	1
Appendicitis	0	1	0	0	0	0	1
All Diseases of Liver (not malignant)	1	1	0	0	1	0	3
Nephritis (Acute and Chronic)	1	2	4	1	1	0	9
Puerperal Sepsis	2	0	0	0	0	0	2
Other Dis. and Acc. of Preg. and Parturition	1	1	1	0	1	0	4
Dis. of Early Infancy and Malformations	7	1	1	1	0	0	10
Suicide	0	2	0	0	0	0	2
Other Violent Deaths	4	1	3	1	1	0	10
Other Defined Diseases	20	27	4	1	7	1	60
Causes ill-defined or unknown	4	2	0	0	0	0	6
All Causes	115	91	61	18	35	8	328

Notifiable Infectious Disease.

Summary of Notifications—1925.

The following table shows a summary of the cases of infectious diseases notified :

			East District.	Middle District.	West District.	Landward part of County.	Burgh of Coldstream.	Burgh of Lauder	Burgh of Eyemouth.
Typhoid or Enteric									
Fever	0	2	0	2	0	0	0	0	0
Typhus Fever	0	0	0	0	0	0	0	0	0
Smallpox (suspected) ..	0	0	0	0	0	0	0	0	0
Scarlet Fever	28	48	18	94	20	10	1		
Diphtheria	0	15	3	18	0	0	0	0	0
Erysipelas	2	1	0	3	0	2	1		
Puerperal Fever	0	1	1	2	0	0	0	0	0
Cholera	0	0	0	0	0	0	0	0	0
Relapsing Fever	0	0	0	0	0	0	0	0	0
Continued Fever	0	0	0	0	0	0	0	0	0
Cerebro Spinal Fever ..	0	0	0	0	0	0	0	0	0
Ophthalmia									
Neonatorum	1	1	1	3	0	0	0	0	0
Tuberculosis	24	21	13	58	3	2	14		
Malaria	0	0	0	0	0	0	0	0	0
Pneumonia—									
Acute Primary	8	7	7	22	0	0	0	0	0
Influenzal	0	1	1	2	0	1	0	0	0
Chickenpox	9	4	2	15	0	4	0	0	0
Encephalitis Lethargica	0	2	1	3	1	0	0	0	0
Anthrax	0	0	0	0	0	0	0	0	0
Poliomyelitis	1	0	0	1	0	0	0	0	0
Jaundice	0	0	0	0	0	0	0	1	
	73	103	47	223	24	19	17		
Cases removed to									
Hospital	26	42	21	89	23	7	3		

Infectious Disease Notified since 1913.

The number of cases of infectious diseases, notifiable and otherwise, notified each year since 1913 is shown in the following tables :—

	Smallpox (suspected)	Scarlet Fever.	Enteric Fever.	Er sipelas.	Puerperal Fever.	Diphtheria.	Tuberculosis.	Malaria.	Ophthalmia Neonatorum.	Cerebro-Spinal Fever.	Polio-myelitis.	Acute Influenzal Pneumonia.	Acute Primary Pneumonia.	Encephalitis Lethargica.	Anthrax.	Chickenpox.	Jaundice	TOTALS.
1913	0	50	7	15	0	64	30	0	0	0	0	0	0	0	0	0	0	166
1914	0	163	0	14	2	31	42	0	0	0	3	0	0	0	0	0	0	255
1915	0	88	5	15	1	28	44	0	0	0	0	0	0	0	0	0	0	181
1916	0	65	2	7	0	50	36	0	0	0	0	0	0	0	0	0	0	160
1917	0	84	2	5	0	16	48	0	0	2	0	0	0	0	0	0	0	157
1918	0	46	0	13	0	18	64	0	1	1	0	0	0	0	0	0	0	143
1919	0	23	2	8	0	34	53	1	3	4	0	10	1	0	0	0	0	139
1920	0	27	1	13	1	27	46	0	4	3	0	3	29	0	0	0	0	154
1921	0	56	0	5	1	21	38	1	2	2	0	4	14	1	1	20	0	166
1922	0	31	2	5	3	9	50	0	1	0	0	10	15	1	0	32	0	159
1923	0	58	3	3	2	16	61	0	1	0	0	0	10	0	0	27	0	181
1924	1	232	1	3	3	6	76	0	3	1	2	13	43	7	0	30	0	421
1925	0	125	2	6	2	18	77	0	3	0	1	3	22	4	0	19	1	283

The number of infectious disease cases shows a considerable reduction from the number notified in the previous year, but is still well above the average and is second highest for the last 13 years.

The number of tuberculosis cases notified was the highest since notification began.

Of the three ophthalmia neonatorum cases, one was removed and treated at Pilton Hospital, Edinburgh.

Four cases of encephalitis lethargica were notified during the year, making a total of 13 cases since the year 1921. This seems to be rather over the average for a rural county. Of the 13 cases, six have died; three are not now in Berwickshire; one is able to do odd jobs but is nervous, forgetful, and at times relapses into a sleepy condition; two are mentally defective, while one is paralytic. Owing to the constant strain of nursing and attendance, two would be much better in institutions for the sake of their relatives.

The cases of scarlet fever numbered 125 in the year and was really not a new outbreak but the continuation of the severe outbreak that occurred in the previous year. Fortunately, the nature of the cases was much less severe than in the previous year. Comparatively few complications occurred; only a few cases contracted otorrhoea and only one required removal to the City Fever Hospital, Edinburgh, for a mastoid operation.

I should like to acknowledge here the very great help that the City Fever Hospital of Edinburgh is now proving in the County public health administration and the kindness shown by the Medical Officer of Health for the City, Dr. Robertson, and the Medical Superintendent of the City Fever Hospital, Dr. Benson, in admitting Berwickshire cases so promptly. If we had not this large hospital with this large staff, its laboratory, surgical and other facilities, we would often have been in a very awkward corner during the past few years. Had these cases been retained in the County it would have meant bringing a surgeon with his anaesthetist and surgical nurse to the County and the employment of special surgical nurses for long periods, and even then the recovery of the child would have been handicapped as compared with treatment in Edinburgh, where surgical and other help could be obtained almost immediately. Experience has shown that medical treatment may not be enough but that surgical treatment may be required in addition. This mastoid complication occurs during and after scarlet fever and in measles, and in one case its occurrence was the first indication of an outbreak of scarlet fever.

Almost every case of puerperal fever is now being sent to the City Fever Hospital. A case of scarlet fever contracting appendicitis and such cases as cerebro spinal fever all do much better in a city hospital, and as they can now be taken in within the minimum time in a comfortable and smooth going ambulance all the advantage lies in their speedy removal.

During the year, in a circular dated 3rd March, 1925, from the Scottish Board of Health, the attention of all Local Authorities was drawn to the seriousness of middle ear disease

and cognate conditions and their relationship to serious brain complications and impairment of hearing, with its consequent handicaps to the individual in after life. The Board of Health state that out of 43 scarlet fever cases examined at a school clinic, 28 (or 65%) had actual or potential ear affections and required supervision. Of 56 measles cases, 36 (or 64%) had actual or potential ear troubles requiring supervision. Of the total cases, 17% had actual disease requiring remedial treatment, and 47% required treatment with the object of prevention.

The Board state that experts are definitely of opinion that the disease is almost entirely preventable, provided treatment is afforded in its acute and sub-acute stages, and they accordingly recommend the appointment of otologists to all fever hospitals. They would suggest that all cases of scarlet fever, measles, diphtheria, etc., coming under notice should be kept under observation and that arrangements should be made for otological examinations at intervals.

The Education Authority for the County of Berwick now employs the services of an aural surgeon from Edinburgh, and the Child Welfare Committee's arrangements are even better, for they permit of an immediate examination by the aural surgeon on the discovery of the condition. At any rate, the report of Mr. Lithgow, Surgeon to the Royal Infirmary of Edinburgh, Ear and Throat Department, amply confirms in this county the statements of the Board's circular, and there is no question at all but that the provision of the services of an aural surgeon for many of our infectious cases would be productive of a great diminution of cases of deafness in after life.

Statistical Information regarding Patients in Gordon Hospital for year 1925.

Number of Patients in Hospital at midnight on 31st
December, 1925 :—

Scarlet Fever	....	19
Tuberculosis—Pulmonary	....	6
		—
Total	... ..	25

Admitted in year 1925 :—

Typhoid	...	...	...	...	2
Scarlet Fever	...	...	...	...	81
Diphtheria	...	...	...	...	13
Primary Pneumonia	...	...	...	...	1
Tuberculosis—Pulmonary	...	...	...	...	9
Non-Pulmonary	...	...	...	...	4
				—	13

Total 110

Discharged in 1925 :—

Typhoid	...	...	...	...	2
Primary Pneumonia	...	...	...	...	1
Scarlet Fever	..	...	...	...	89
Diphtheria	...	...	...	...	13
Tuberculosis—Pulmonary	...	...	...	...	6
Non-Pulmonary	...	...	...	...	3
				—	9

Total 114

Number of Patients in Hospital at midnight on 31st
December, 1925 :—

Scarlet Fever	...	...	...	...	10
Tuberculosis—Pulmonary	...	...	...	...	1
Non-Pulmonary	...	...	...	...	1
				—	2

Total 12

Deaths 9

Bed-patient Days :—

Typhoid Fever	...	...	...	...	109
Scarlet Fever	...	...	...	...	4372
Diphtheria	...	...	...	...	272
Primary Pneumonia	...	...	...	...	17
Tuberculosis—Pulmonary	...	...	...	...	563
Non-Pulmonary	...	...	...	...	370
				—	933

Total 5703

Note.—The day of admission and the day of discharge
are counted as one day.

In addition to the bed-patient days for 1925 for Gordon Hospital, 51 bed-patient days were also paid for at the City Fever Hospital, Edinburgh, on account of mastoid abscess and 377 bed-patient days were put in at Berwick-on-Tweed Infectious Diseases Hospital.

Smallpox and Vaccination.

All the Local Authorities of my area are members of the Smailholm Smallpox Hospital Combination.

In the case of an emergency, free vaccination can also be arranged for in all areas without delay, and supplies of lymph obtained from the Board of Health.

So far as exemptions from vaccination are concerned, in the East District 3 were exempted out of 167 births; in the Middle District, none; in the West District, 7 out of 103; in the Burgh of Coldstream, none; in the Burgh of Lauder, none; and 23 out of 46 births in Eyemouth.

In Eyemouth a large section of the population is now growing up unprotected by vaccination, which, in the event of any outbreak of smallpox, would involve the Town Council in grave responsibility and would seriously affect the safety of the children concerned.

Administrative Control of Tuberculosis.

The cases of pulmonary and non-pulmonary forms of tuberculosis notified for the various areas during the year 1925 are as follows—

Summary of Notifications of Tuberculosis for 1925.

	Pulmonary Tuberculosis.	Non-Pulmonary Tuberculosis.	Both Pulmonary & Non-Pulmonary.	Total Cases.
East District	10	14	0	24
Middle District	10	10	1	21
West District	6	7	0	13
Burgh of Coldstream	1	1	1	3
Burgh of Eyemouth	3	9	2	14
Burgh of Lauder	1	1	0	2
	31	42	4	77

The tuberculous cases known to be resident in the County (with the exception of Duns) at the end of 1925 numbered 139, of which 57 were cases of pulmonary, 74 of non-pulmonary tuberculosis, and 8 of both forms.

During the year, 33 deaths from tuberculous disease occurred in the three districts and the four burghs, of which 30 were ascribed to pulmonary tuberculosis, and 3 to non-pulmonary tuberculosis.

Out of the 77 cases of tuberculosis brought to my knowledge during 1925, 73 were notified by practitioners, and the remaining 4 were brought to knowledge after death, through the death registration system. Out of the 33 patients who died during 1925 from some form of tuberculosis, 16 were notified after death or within two months of death, and of that number 4, as has already been said, were notified after death. Of those who received treatment during the year, 16 died; of whom 10 died in institutions, 2 in open-air shelters and 4 at home while in receipt of domiciliary treatment.

During the year, 31 patients received domiciliary treatment. Of these 31 patients, 6 were treated in open-air shelters; 14 received dental treatment; 4 received inoculation with tuberculin ointment; while all received such medical attention and drugs as was necessary, either as a part of medical benefit or under arrangements made directly.

In Gordon Hospital were treated 19 patients: in Hairmyres Colony, 5; in East Fortune, 36; in Craigleith Hospital, 1; 1 in Sick Children's Hospital, and 1 in Royal Infirmary. Of these cases, 7 received both institutional and domiciliary treatment.

The Health Visitors paid 78 domiciliary visits, and they escorted 12 patients to sanatoria.

Altogether during the year 85 tuberculous patients were treated, of whom 51 were treated on account of pulmonary tuberculosis or consumption; three were admitted to East Fortune for short periods for observation; one was treated for both pulmonary and non-pulmonary tuberculosis, while 30 were treated for non-pulmonary tuberculosis.

I should explain that although tuberculosis is a definite disease, a rough distinction is drawn between cases of pulmonary tuberculosis and non-pulmonary tuberculosis. Pulmonary tuberculosis (or phthisis) is the name given to the disease of tuberculosis when it affects the lungs: it is also called by many consumption, because in the course of the disease the tubercle bacilli actually cause the eating away and breaking down of lung tissue, which is ejected in the sputum. Non-pulmonary (or surgical) tuberculosis is the name given to tuberculosis in other regions of the body, such as the bones, joints, or glands.

Of course, both pulmonary and non-pulmonary tuberculosis may be coincident in the same person.

Of the two forms of the disease, pulmonary tuberculosis is much more fatal, while non-pulmonary tuberculosis, along with rickets and infantile paralysis, is responsible for nearly all crippling deformities.

Considering the non-pulmonary forms of tuberculosis first, the majority of the 30 non-pulmonary cases treated were cases of glandular tuberculosis, some of which were rather acute, but a noteworthy feature was the number of serious cases of tuberculosis in other parts of the body, the 30 cases including three cases of hip-joint disease and three cases of spinal tuberculosis.

I do not know of any other disease for which the provision of treatment facilities has proved such a benefit as in these cases of non-pulmonary or surgical tuberculosis. Before the advent of East Fortune, such cases had to be sent to the large city hospitals which, already overcrowded with acute cases, could do little more than operate to remove as much of the diseased tissues as possible and then discharge the patients—when treatment ought only to have commenced—to homes often most unsuitable. To many of these cases death was the termination of a miserable existence. The treatment of non-pulmonary tuberculosis is generally a very long process. Operation may remove local foci of disease but it is food, fresh air and sun-light, with conservative surgical measures that cure. Non-pulmonary tuberculosis is a disease in Scotland

that is generally caused by infected milk, and the speediest way of preventing these cases would be by eliminating tuberculous cows and by the provision of dairy methods which would provide clean milk.

In dealing with the patients suffering from pulmonary tuberculosis or consumption, 51 were treated but I am afraid that the outlook is not quite so assuring.

Below is a table which gives the number of pulmonary tuberculosis cases notified each year since the year in which it first became notifiable, viz., 1912; the number of cases which died within six months of notification, and the total number that are known to have died since notification.

	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
Total Cases of Pulmonary Tuberculosis notified during year	32	30	42	39	27	30	38	40	34	38	38	29	45	35
Number dying within 6 months of notification	12	10	8	10	6	6	10	13	7	12	16	7	16	16
Number dying since notification	26	25	28	16	16	18	20	28	14	21	24	14	20	19

For years 1912 and 1913, figures exclude Duns and Eyemouth.

From year 1914 onwards figures exclude Duns but include Eyemouth.

It is disappointing to find that both in 1925 and the preceding year 16 persons died of pulmonary tuberculosis within six months after notification. On the other hand there is a larger number being notified in an earlier stage, when arrest of the disease and recovery of working powers may be expected.

In the case of those who die within a few months after notification, it is difficult to credit to what stage of the disease a person—generally a man—may go without calling for medical advice; some indeed are dead within a few days. Such cases show little power of resistance and can have almost no degree of immunity. They show the necessity of raising the general resisting power of the community. One potent means of doing that would be by a school dental scheme under which

no school child would leave school with carious teeth which might become foci of infection generally, as well as lowering his power of resistance.

In the case of patients who make bad recoveries from exhausting diseases such as influenza, pleurisy, or pneumonia, in whom tuberculous infection may be suspected, a brief period of sanatorium treatment may clear up the condition and it is infinitely better to suspect tuberculosis than to diagnose it, that is, from the point of view of satisfactory treatment.

It will be observed that no fewer than 19 tuberculous patients were treated in Gordon Hospital during the year. The combination sanatorium at East Fortune, however, is what we must primarily depend on, with its advantages of a resident medical staff, its X-ray and ultra-violet ray apparatus, its operating theatre, plaster room for orthopaedic work, as well as its provision of a school teacher who can carry on the education of children who would otherwise be sadly neglected.

If reference be made to Appendix II. it will be realised that under modern conditions great stress is laid on the interchangeability of infectious diseases hospital wards. Outbreaks of infectious disease very rarely conform to the plans of architects or hospital committees and it is essential that wards of hospitals can be interchangeable in their purpose to the greatest degree. In Gordon Hospital we have one very excellent pavilion devoted to the sole purpose of treating tuberculosis. It is quite possible, and has happened that the pavilion has been empty or almost empty when its use was most urgently required for the isolation of scarlet fever or diphtheria cases, and in 1924 many cases were sent to hospitals outwith the county which could have been retained and treated at Gordon Hospital had the tuberculosis accommodation been at my disposal. It must now be recognised that the main use of Gordon Hospital will be to isolate advanced cases or treat such cases that cannot be admitted or retained at East Fortune, but this purpose could equally well be given effect to if the present tuberculosis block were given over to the Hospital Committee and tuberculosis placed on the same footing as scarlet fever or diphtheria.

Maternity Service and Child Welfare Scheme.

HOME VISITATION.—For the year 1924 the absence of health visitors and child welfare nurses was so great that this branch of child welfare work was very much handicapped.

For the current year, however, things were considerably improved, and 5978 visits were paid.

COLDSTREAM VOLUNTARY CHILD WELFARE CENTRE.—Miss Tait, Health Visitor, attends this Centre on the first Wednesday of each month, when the babies are weighed and the mothers individually advised as to questions of mothercraft.

PROVISION OF FOOD AND MILK.—No cases received food and milk during the year 1925.

HOSPITAL AND TREATMENT FACILITIES.—Ten children were brought up for examination by Dr. Sym, who treated by ordering of glasses or otherwise. The majority of these suffered from squint.

Three other children were brought up for examination by Mr. Lithgow, Aurist to the Berwickshire Education Authority. These children suffered from enlarged tonsils and adenoids, and in each case Mr. Lithgow advised operation.

The cases treated in the hospitals in Edinburgh are as follows :—

1.—Post natal	Royal Infirmary.
Ante natal	Maternity Hospital.
2.—Ante natal	Maternity Hospital.
3.—Malnutrition	Sick Children's Hospital.
4.—Ante natal	Maternity Hospital.
5.—Puerperal fever	City Fever Hospital.
6.—Hip Joint Disease	Sick Children's Hospital.
7.—Infantile Paralysis	Sick Children's Hospital.
8.—Post natal	Pilton Hospital, Leith.
9.—Ophthalmia Neonatorum	Pilton Hospital, Leith.
10.—Ante natal	Maternity Hospital.
11.—Post natal	Royal Infirmary.
12.—Post natal	Royal Infirmary.
13.—Ante natal	Maternity Hospital.

Detailed as above, the total number of cases who received relief in one form or another numbered 26 during the year 1925, and, in the case of those sent to hospital, intervention in every instance was at the request of the medical practitioner in charge of the case.

Motor Ambulance.

During the year this ambulance was turned out 69 times, with a total mileage of 2470 miles. The cases removed numbered 109, of whom ten were tuberculous patients and 97 infectious cases. The ambulance gave a very large amount of trouble during the year, and on many occasions the service of other ambulances had to be obtained. The car had previously given very good service, but it was obvious that it had outlived its usefulness and accordingly the County Council ordered a 20 h.p. Austin chassis, the ambulance body to be supplied by Messrs. Kennedy of Haddington. This ambulance is owned by the County Council and is primarily used for the transportation of tuberculous patients, but is lent out to the various authorities for the removal of fever cases, infected bedding and clothing, and for other patients, not infectious, requiring removal to hospital in Edinburgh or elsewhere. The car is stationed at Gordon Hospital, and the Matron of the Hospital and the health visitor concerned in any particular run are responsible that it leaves the hospital thoroughly disinfected.

The County ambulance was formerly stationed in Duns and charged for in accordance with the decision of the County Council at their meeting in 1921, viz., that each public health authority should be charged for the use of the motor ambulance in the first instance, only mileage at the rate of 1/3 per mile calculated from the patient's house to the hospital and back to the garage in Duns, while the additional expenses of going to the hospital for a nurse before proceeding to the patient's home should be pooled over the whole County, including burghs, and allocated amongst the various public health authorities.

For the year in question the various districts and authorities comprised within the Gordon Combination paid mileage at the rate of 9d. per mile for one way only, the remainder being allocated over the entire county by the County Treasurer.

Detailed accounts were submitted by me to the various authorities concerned, a proceeding which was not only time consuming but entirely unnecessary. To obviate the clerical work in my office, I requested the Gordon Combination Board to assume responsibility for all ambulance payments in connection with infectious disease and allocate them to the general charges of the hospital.

After consideration, the Gordon Hospital Combination Board decided that all ambulance charges in respect of the five combining authorities should be paid direct by the Hospital Board, and that the total expenditure should be allocated in the hospital accounts according to the mean of population and valuation in the same manner as the general expenses are now allocated.

EAST DISTRICT.

(b) SPECIAL ENQUIRIES.—At a meeting of the East District Committee on 18th December, 1924, a letter, dated 2nd October, 1924, from the Scottish Board of Health, was read regarding a fatal case of plumbism at Grantshouse, and the letter also referred to other alleged cases of plumbism reported. At that meeting I was instructed to enquire into the water supplies concerned and prepare a report for submission to the Scottish Board of Health.

This report was submitted on 6th July, 1925, and, in view of the fact that its conclusions affect many water supplies in this County, the report is given in full in Appendix I.

It would seem desirable, in the case of new and even old supplies, that when chemical analyses are being arranged for, to examine particularly for the reaction of water, its hardness and the presence of silica or silicates.

In the case of the Grantshouse supply, the old lead pipe has been disconnected and a new 2 inch iron pipe substituted ; while in the case of the Coldingham pipe the East District Committee brought the matter before the Management Committee of the Coldingham Special Water District.

The initial events which led to this report will be found on pages 22 and 23 of my Annual Report for the year 1924.

(d) FACTORY AND WORKSHOP ACT, 1901.—The annual report on the administration of the Factory and Workshop Act, 1901, was submitted to the Secretary of State, Home Office. Altogether 53 inspections were made, one defect was found and one written notice was served.

(e) HOUSING ACTS.—On 14th April, a house at the West End, Chirnside, belonging to Mr. James Hunter, was represented as uninhabitable under Section 30 of the Housing of the Working Classes Act, 1890, on account of dilapidation. It was a one roomed house and overeroweded. The East District Committee agreed to ask the proprietor to do the necessary repairs on the property so far as such can be done while the house was occupied.

(h) HOSPITAL ACCOMMODATION.—The East District is a partner in Millerton Combination Hospital, which was burned down on 16th February, 1924. Since then cases of infectious disease have been treated in Gordon Infectious Diseases Hospital, and in Berwick-on-Tweed Infectious Diseases Hospital ; while tuberculous patients have been treated in East Fortune Sanatorium, Gordon Hospital, Hairmyres Colony, and the Sick Children's Hospital, Edinburgh.

It was decided to rebuild the hospital wards at Millerton Hospital and a memorandum (see Appendix II.) on the subject of hospital reconstruction was prepared and submitted to the East District Committee.

Plans and estimates of probable cost on the lines of the Memorandum were prepared by architects, but owing to the heavy cost—about £12,000—it was agreed to proceed with the reconstruction of the hospital on the lines of the Memor-

andum, and accordingly the Committee instructed that fresh plans should be prepared for a block of two wards of six beds each, and two observation wards of one bed each, with a duty room. This was estimated to cost about £6,383. Under Section 66 (3) of the Public Health Act, the plans of the hospital had to be approved by the Scottish Board of Health, and were duly submitted to the Board, but the Board held that the revised plan would accommodate only one considerable outbreak involving the two sexes and, in addition, two cases of other diseases, which provision could not be in itself regarded as equal to the needs of the population of the Eastern District and the Burgh of Eyemouth, and also that a small hospital was expensive to run as well as to build. Accordingly the Board asked the Authority to reconsider the whole matter with the aim of adopting an alternative course to rebuilding Millerton Hospital.

(g) INFECTIOUS DISEASE.—During the year 30 cases were notified under the Infectious Disease (Notification) Act, 1889, being 28 cases of scarlet fever and 2 cases of erysipelas.

Under Regulations made under Section 78 of the Public Health (Scotland) Act, 1897, 32 cases were notified, viz :—one of ophthalmia neonatorum, eight of acute primary pneumonia, ten of pulmonary tuberculosis and 14 of non-pulmonary tuberculosis.

Under provisions of the Infectious Disease (Notification) Act, there were also notified one case of anterior poliomyelitis and nine cases of chickenpox.

Of the 28 cases of scarlet fever, 15 were removed to hospital and 13 remained at home. The two cases of erysipelas also remained at home.

Of the second group of cases, six out of the ten pulmonary tuberculosis cases were removed to hospital or sanatorium, and five out of the 14 cases of non-pulmonary tuberculosis. In this group also, three cases notified in a previous year were removed to hospital for the first time during 1925, and also one case of non-pulmonary tuberculosis.

Of the third group of cases none required removal to hospital.

The 28 cases of scarlet fever were fairly well scattered over the district, the localities being mainly Preston, Chirnside, and Foulden. 12 cases were treated at Gordon Hospital and three at Berwick-on-Tweed Infectious Diseases Hospital. Two were return cases.

CLOSURE OF SCHOOLS.—(1) the closure of Preston School was required from 6th to 9th January, 1925, inclusive ; (2) from 19th to 23rd January, inclusive, all children in attendance at Preston School from Preston village were excluded : (3) the same exclusions were continued from 26th to 30th January, inclusive, all with a view to the prevention of scarlet fever.

(l) VENEREAL DISEASE.—At the East District Committee meeting on 25th June, 1925, the Committee agreed to pay the travelling expenses of any necessitous venereal disease cases requiring treatment, and it was further agreed to conclude an agreement with the Corporation of Edinburgh for treatment of such cases and to ask the approval of the Scottish Board of Health thereto.

I submitted a proposed scheme under the Public Health (Venereal Disease) Regulations (Scotland), 1919, viz :—

- (a) Venereal Disease will be added to the list of diseases for which medical practitioners can send specimens for examination to the Laboratory of the Royal College of Physicians, Edinburgh, at the expense of the Local Authority.
- (b) For the treatment at and in hospitals, the Local Authority will come to an arrangement with the Corporation of the City of Edinburgh as outlined in the letter of the Medical Officer of Health of that City to the County Clerk of Berwickshire on the 12th October, 1923.
- (c) All medical practitioners shall have the right to send to the Royal Infirmary, Edinburgh, or such other institution in Edinburgh, any cases of venereal disease in which skilled assistance is required.
- (d) Approved accounts by medical practitioners for salvarsan or its substitutes shall be paid by the Local Authority.

At the September meeting it was reported that a copy of this scheme had been sent to the Scottish Board of Health on 29th June, 1925, and that approval had been asked for but that no reply had been received.

(q) MILK AND DAIRIES (SCOTLAND) ACT, 1914.—
On 22nd June, 1925, I directed the following letter to the Committee :—

“ I have to direct the attention of your Committee to the Milk and Dairies (Scotland) Act, 1914, Commencement Order, 1925.”

Your Committee have already had before them very full reports by me on the question of Milk Supplies, particularly in my reports for the years 1919 and 1920.

In these reports I drew attention to :—

- (1) the unsatisfactory nature of the milk supplies for the County generally.
- (2) the unbusinesslike policy of spending money on the cure of tuberculous cases infected by dirty milk.
- (3) the damage done to health, particularly in the case of children, by the small amount of milk consumed. (In the case of one area, the fresh milk purchased worked out at less than 1/13th of a pint per day, while for the whole country the Board of Trade estimated the working class consumption at $\frac{1}{4}$ pint per head per day.) These facts, coupled with the general use of tinned milk, show up one very serious defect in this County.
- (4) the dirty nature of many milks. One sample which I quoted showed no less than 2,700,000 micro-organisms per cubic centimetre and more than 30,000 B. Coli per cubic centimetre.
- (5) the fact that the Public Health Department ordered a very large amount of milk for tuberculous patients. In conjunction with the Child Welfare Department, it was the only large buyer of milk in the County, and, in view of the overwhelming importance of a clean milk supply from the child welfare point of view, the health visitors started to visit all dairies from which milk was supplied, with the purpose of cutting off supplies from undesirable sources and of inducing a higher standard of cleanliness

generally. The scheme had to be abandoned for want of time.

- (6) The last paragraph of my articles on Milk Supplies in my report for the year 1919 when I foreshadowed the putting into operation of the Milk and Dairies (Scotland) Act, 1914.
- (7) In view of the importance and of the fact that unless with the direct sanction of the Scottish Board of Health, a whole time veterinary inspector must be appointed, it would be advisable for the Committee to take this question into serious consideration as soon as possible with a view to acting with other counties, if necessary."

In a further letter, dated 18th September, 1925, I recommended that, with a view to carrying out the provisions of the Milk and Dairies (Scotland) Act, 1914, :—

- (1) Mr. Wilson, Ayton, be appointed Veterinary Inspector under the Milk and Dairies (Scotland) Act, 1914.
- (2) Routine inspections of dairies be carried out once yearly by the district sanitary inspector.
- (3) The duties of these inspectors be carried out under the directions and supervision of the Medical Officer, who shall be responsible for the administration of the Act generally.

As notice regarding the registration of dairymen had to be advertised in the press, I suggested that it would be much simpler if the East District were to wait until all my areas had approved similar recommendations and then put one notice in the papers, as required by the Act. The recommendations were agreed to.

A report, dated 2nd October, 1925, was submitted regarding a case of scarlet fever at No. 3 Holding, Lamberton ; and a case of scarlet fever at No. 10 Holding, Foulden. In both cases the sale of milk was temporarily stopped under Section 18 (3) of the Act.

(o) MATERNITY AND CHILD WELFARE.—The East District Committee is a partner in the Central Child Welfare Committee for Maternity and Child Welfare, and particulars regarding the work done under the joint scheme will be found in the section on Child Welfare.

The following statistics are furnished on the instruction of the Scottish Board of Health :—

1.—INFANTILE MORTALITY.

(a) Number of deaths under one year of age	9
(b) Rate per 1,000 births	53.8
(c) Deaths under one week of age	4
(due to premature birth, 4)	
,, one week and under four weeks	2
(due to ieterus neonatorum, 1)	
(due to premature birth, 1)	
,, four weeks and under three months	2
(due to pneumonia, 2)	
,, three months and under six months	1
(due to bronehitis, 1)	

2. BIRTHS.

(a) Number registered	167
(b) Number notified under Notification of Births Act, 1907	105
(c) All attended by doctor so far as is known.	
(d) Number of still births (births of dead children)	0

3. MATERNAL MORTALITY.

(a) Number of deaths resulting from miscarriage or childbirth	1
(b) Number of deaths resulting from puerperal sepsis	1

4.—MIDWIVES (SCOTLAND) ACT, 1915.

Four district nurses with the C.M.B. are resident in the district, and act as maternity nurses.

(*q*) No action was taken and no new licenses for the sale of Graded Milk were granted.

(*r*) The District Sanitary Inspector inspects meat and other articles of food.

(*u*) See statistical summaries and also paragraphs (*j*) and (*o*).

MIDDLE DISTRICT.

(*d*) FACTORY AND WORKSHOP ACT, 1901.—Under this Act, 47 visits of inspection were paid.

(*h*) HOSPITAL ACCOMMODATION. — The Middle District is a partner in the Gordon Hospital Combination and also in the Border Smallpox Combination.

(*j*) INFECTIOUS DISEASE.—During the year there were notified, under the Infectious Disease (Notification) Act, 1889, two cases of typhoid fever, 48 cases of scarlet fever, 15 cases of diphtheria, one case of erysipelas, and one case of puerperal fever.

Notifications of diseases notifiable in terms of Regulations made under Section 78 of the Public Health (Scotland) Act, 1897, were one case of ophthalmia neonatorum, seven cases of acute primary pneumonia, one case of acute influenzal pneumonia, eleven cases of pulmonary tuberculosis, and ten cases of non-pulmonary tuberculosis.

Notifications of diseases to which the provisions of the Infectious Disease (Notification) Act have been extended were two cases of encephalitis lethargica and four cases of chickenpox.

The high incidence of scarlet fever specially affected the district round about Duns during the first three months of the year, while afterwards—in September—it particularly affected the area between Duns and Coldstream. Early in January two children contracted scarlet fever in Langton in a house opposite the school. Removal to hospital was refused, and, as the school could not be reopened, a Sheriff's warrant was sought and granted on the 16th January, in terms of Section 54 of the Public Health (Scotland) Act, 1897. Langton School, which was closed on the 6th January, was then reopened on the 16th.

Later in the year another child took scarlet fever in a house adjacent to Allanton School, where removal to hospital was also refused. The circumstances of the case were reported to both the Education Authority and the Middle District

Committee, so that the Education Authority, if they chose, might make application to the Middle District Committee, which met a day or two afterwards, asking that steps might be taken to remove the child to hospital. As the Education Authority did not do so, no application for a Sheriff's warrant was made, and the school was closed from 2nd October to 12th October.

Two mild cases of typhoid fever were reported from Belchester, but no source of infection could be traced.

Of the two cases of encephalitis lethargica reported, one was in a school child, while the other was brought to our notice after death through the Registrar's Returns.

One case of puerperal fever was removed to the City Fever Hospital, Edinburgh, where she died.

(1) **VENEREAL DISEASE.**—At a meeting of the District Committee, held on 6th April, 1925, there was submitted and read a letter from the Scottish Board of Health, dated 11th December, 1924, as to the proposed agreement with the Corporation of Edinburgh for the treatment of patients suffering from venereal disease, with draft of an Order proposed to be issued by the Board for the combination of all the Local Authorities in the County in a joint scheme for the diagnosis, treatment, and prevention of venereal diseases. The District Committee, however, did not favour the setting up of a Joint Committee or other administrative body.

INSULIN.—During the year a supply of insulin was asked for by a doctor on behalf of one patient. The District Committee agreed to authorise payment for the insulin in the case referred to, and empowered the Chairman or Vice-Chairman to authorise the Medical Officer of Health to incur such expenditure in any further cases as might be thought advisable.

(o) **MATERNITY AND CHILD WELFARE.**—The Middle District Committee is a partner in the Central Child Welfare Committee for Maternity and Child Welfare, and particulars regarding the work done under the joint scheme will be found in the section on Child Welfare.

The following vital statistics are furnished on the instruction of the Scottish Board of Health:—

1.—INFANTILE MORTALITY.

(a) Number of deaths under one year of age	1
(b) Rate per 1,000 births	7.6
(c) Deaths, one week and under four weeks (due to congenital debility)	1

2.—BIRTHS.

(a) Number registered	131
(b) Number notified under Notification of Births Act, 1907	67
(c) All attended by doctor so far as is known.	
(d) Number of still births (births of dead children)	0

3.—MATERNAL MORTALITY.

(a) Number of deaths resulting from miscarriage or childbirth	0
(b) Number of deaths resulting from puerperal fever	1

4.—MIDWIVES (SCOTLAND) ACT, 1915.

Two district nurses, with the C.M.B., are resident in the district, and act as maternity nurses.

(g) MILK AND DAIRIES (SCOTLAND) ACT, 1914.—

On 18th September, 1925, I wrote to the District Clerk, enclosing a draft scheme for putting the Milk and Dairies Act into operation. The recommendations were the same as in the East District.

(r) Food and meat are inspected at intervals by the Sanitary Inspector.

(u) See statistical summaries and also paragraphs (j) and (o).

WEST DISTRICT.

(d) FACTORY AND WORKSHOP ACT. 1901.—Under this Act, 31 visits of inspection were paid and one notice of defect was sent.

(h) HOSPITAL ACCOMMODATION.—The West District Committee is a partner in the Gordon Hospital Combination and also in the Border Smallpox Combination.

(j) INFECTIOUS DISEASE.—During the year there were notified under the Infectious Disease (Notification) Act, 1889, 18 cases of scarlet fever, three cases of diphtheria, and one case of puerperal fever.

In terms of Orders by the Local Government Board for Scotland, there were notified one case of ophthalmia neonatorum, seven cases of acute primary pneumonia, one case of acute influenzal pneumonia, six cases of pulmonary tuberculosis, and seven cases of non-pulmonary tuberculosis.

Diseases to which the provisions of the Infectious Disease (Notification) Act have been extended were two cases of chickenpox and one case of encephalitis lethargica.

The cases of scarlet fever were distributed over the District.

The case of encephalitis lethargica was first brought to notice by the Registrar after death.

(l) VENEREAL DISEASE.—During the year a proposed Order was submitted by the Scottish Board of Health, which was suggested in terms of Section 83 of the Public Health (Scotland) Act, 1897, whereby the local authorities in the County would be combined for the treatment of the disease. The Committee requested the Board to dispense with the proposed Order and to give the 75% grant of the approved expenditure on the Committee entering into the proposed agreement with the City of Edinburgh.

(o) MATERNITY AND CHILD WELFARE.—The West District Committee is a partner in the Central Child Welfare Committee for Maternity and Child Welfare, and particulars regarding the work done under the joint scheme will be found in the section on Child Welfare.

The following vital statistics are furnished on the instruction of the Scottish Board of Health :—

1.—INFANTILE MORTALITY.

(a) Number of deaths	....	....	....	....	5
(b) Rate per 1,000 births	....	....	....	....	48.5
(c) Deaths under one week	....	....	....	....	1
	(due to congenital debility)				
„	one and under four weeks	....	....	....	1
	(due to convulsions)				
„	four weeks and under three months	....	....	....	1
	(due to whooping cough)				
„	three months and under six months	....	....	....	1
	(due to pneumonia)				
„	six months and under nine months	....	....	....	1
	(due to convulsions)				

2.—BIRTHS.

(a) Number registered	....	....	....	....	103
(b) Number notified under Notification of Births Act, 1907	....	....	....	....	22
(c) All attended by doctor so far as is known.					
(d) Number of still births (births of dead children)	....	....	....	....	1

3.—MATERNAL MORTALITY.

(a) Number of deaths resulting from miscarriage or childbirth	....	....	....	....	1
(b) Number of deaths resulting from puerperal sepsis					0

4.—MIDWIVES (SCOTLAND) ACT, 1915.

No midwives practice within the District.

(g) MILK AND DAIRIES (SCOTLAND) ACT, 1914.—

Similar action was taken by me to what was taken in connection with the East District.

(r) The District Sanitary Inspector inspects meat and other articles of food.

(u) See statistical summaries and also paragraphs (j) and (o).

COLDSTREAM BURGH.

(d) FACTORY AND WORKSHOP ACT, 1901.—During the year there were 21 inspections made under the Factory and Workshop Act, 1901.

(h) HOSPITAL ACCOMMODATION.—The Coldstream Town Council is a partner in the Gordon Hospital Combination and also in the Border Smallpox Combination.

(j) INFECTIOUS DISEASE. — During the year Coldstream had an unusually large incidence of scarlet fever. No fewer than 20 cases were reported, all cases being removed to hospital. In addition two cases of pulmonary tuberculosis were notified, one case of non-pulmonary tuberculosis, and one case of encephalitis lethargica.

With regard to the scarlet fever outbreak no action required to be taken other than notification, isolation, and disinfection.

(l) VENEREAL DISEASE.—No facilities are available for the treatment of patients suffering from venereal disease. In the event of any scheme being adopted by the Middle District, the probability is that the Town Council of Coldstream would be willing to join.

(o) MATERNITY AND CHILD WELFARE.—The Coldstream Town Council is a partner in the Central Child Welfare Committee for Maternity and Child Welfare, and particulars regarding the work done under the joint scheme will be found in the section on Child Welfare.

The following vital statistics are furnished on the instruction of the Scottish Board of Health :—

1.—INFANTILE MORTALITY.

(a) Number of deaths under one year of age	1
(b) Rate per 1,000 births	52.6
(c) Deaths under one week	1
(due to premature birth)	

2.—BIRTHS.

(a) Number registered	19
(b) Number notified under Notification of Births Act, 1907,	1
(c) All attended by doctor so far as is known.	
(d) Number of still births (births of dead children)	1

3.—MATERNAL MORTALITY.

(a) Number of deaths resulting from miscarriage or childbirth	0
(b) Number of deaths resulting from puerperal sepsis	0

4.—MIDWIVES (SCOTLAND) ACT, 1915.

There is no midwifery practice in the Burgh.

(q) MILK AND DAIRIES (SCOTLAND) ACT, 1914.—Advice on the same lines as that given to the East District was given to the Town Council but no further action could be taken.

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- (r) Inspections of meat and food are made at intervals.
(u) See statistical tables and paragraphs (j) and (o).
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EYEMOUTH BURGH.

(d) FACTORY AND WORKSHOP ACT, 1901.—During the year 37 visits were paid to factories and workshops. Two defects were found, which were remedied.

(h) HOSPITAL ACCOMMODATION. — The Town Council of Eyemouth is a partner in the Millerton Hospital Combination, which, of course, at the present has no hospital, so that any cases occurring in Eyemouth would require to be sent to Gordon or the Infectious Disease Hospital at Berwick-on-Tweed.

(j) INFECTIOUS DISEASE.—Excluding tuberculosis, only three cases of infectious disease occurred during the year, viz: one case of acute infective jaundice (Spirochaetosis Ictero Haemorrhagica), one case of scarlet fever, and one case of erysipelas. The three cases of scarlet fever were treated

at home. The patient with acute infective jaundice died. Some rats were trapped from the curing yard involved and sent for examination to the Physician's Laboratory, Edinburgh, but no spirochaetes were found in the rat tissues on examination by various methods.

Five cases of pulmonary tuberculosis and nine cases of non-pulmonary tuberculosis were also notified; of these cases three were removed to hospital.

(l) VENEREAL DISEASE.—No facilities are available for the treatment of necessitous persons suffering from venereal disease.

(o) MATERNITY AND CHILD WELFARE.—The Eyemouth Town Council is a partner in the Central Child Welfare Committee for Maternity and Child Welfare, and particulars regarding the work done under the joint scheme will be found in the section on Child Welfare.

The following vital statistics are furnished on the instruction of the Scottish Board of Health:—

1.—INFANTILE MORTALITY.

(a) Number of deaths under one year of age	2
(b) Rate per 1,000 births	43.4
(c) Deaths, one week and under four weeks	1
(due to whooping cough)	
,, three and under six months	1
(due to convulsions)	

2.—BIRTHS.

(a) Number registered	46
(b) Number notified under Notification of Births Act, 1907	46
(c) All attended by doctor so far as is known.	
(d) Number of still births (births of dead children)	0

3.—MATERNAL MORTALITY.

(a) Number of deaths resulting from miscarriage or childbirth	1
(b) Number of deaths resulting from puerperal sepsis	0

4.—MIDWIVES (SCOTLAND) ACT, 1915.

A district nurse with the C.M.B. is resident in the Burgh and acts as maternity nurse.

(q) MILK AND DAIRIES (SCOTLAND) ACT, 1914.—

The same action was taken by me as was taken in connection with the East District.

(r) The Sanitary Inspector makes periodical inspections.

(v) The cases of infectious diseases have been given under paragraph (j), and infantile mortality under paragraph (o).

LAUDER BURG.

(d) FACTORY AND WORKSHOP ACT, 1901.—During the year 15 visits were paid to factories, workshops, and workplaces.

(h) HOSPITAL ACCOMMODATION.—The Burgh of Lauder is a partner in the Gordon Combination and also in the Border Smallpox Combination.

(j) INFECTIOUS DISEASE.—During the year there were notified ten cases of scarlet fever, of which seven were removed to hospital; two of erysipelas, one of acute influenzal pneumonia, one of pulmonary tuberculosis, one of non-pulmonary tuberculosis, and four of chickenpox.

(l) VENEREAL DISEASE.—In the event of any Venereal Disease Scheme being agreed to by the West District Committee, probably the Town Council of Lauder would be willing to join in.

(o) MATERNITY AND CHILD WELFARE.—The Lauder Town Council is a partner in the Central Child Welfare Committee for Maternity and Child Welfare, and particulars regarding the work done under the joint scheme will be found in the section on Child Welfare.

The following vital statistics are furnished on the instruction of the Scottish Board of Health. :—

1.—INFANTILE MORTALITY.

(a) Number of deaths under one year of age	0
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2.—BIRTHS.

(a) Number registered	6
(b) Number notified under Notification of Births Act, 1907	0
(c) All attended by doctor so far as is known.						
(d) Number of still births (births of dead children)	....					0

3.—MATERNAL MORTALITY.

(a) Number of deaths resulting from miscarriage or childbirth	....	....	....	....	....	0
(b) Number of deaths resulting from puerperal sepsis						0

4.—MIDWIVES (SCOTLAND) ACT, 1915.

Maternity nurses are obtained, as required, from the Berwickshire Nursing Association.

(q) MILK AND DAIRIES (SCOTLAND) ACT, 1914.—What applies to other authorities applies also to the Town of Lauder.

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- (r) Inspections of meat and food were made at intervals.
(u) See statistical tables, and paragraphs (j) and (o).

PUBLIC HEALTH ADMINISTRATION.

On the 16th May, 1911—15 years ago—I took over the duties of Medical Officer of Health for the County of Berwick, succeeding some four or five part time medical officers, and commencing for the first time the duties of School Medical Inspector.

In 1911 the medical work in schools was limited to examination of the children. There were no treatment schemes whatever. On the public health side it was little past the drain and sewer stage.

Now, at the end of 1925, circumstances have entirely altered.

The eleven infectious diseases to which the Infectious Disease (Notification) Act applied in 1911 have been extended by the inclusion of four others ; while, under Orders issued by the Scottish Board of Health, seven other diseases have been included, including all forms of tuberculosis, ophthalmia neonatorum, and acute primary and influenzal pneumonia.

In 1911 almost nothing was done for the individual. The only clinical facilities that existed were provided in two small local hospitals at Millerton and Gordon, which treated cases of scarlet fever and diphtheria, with an odd case of typhoid, and which were served by old fashioned horse ambulances, involving much delay in bringing many patients to hospital, as horses could not be specially retained and had to be obtained when necessary.

At the present day a wide range of medical services is available for the community. Starting with the treatment of infectious disease, one of the two local hospitals, viz., Millerton, has been burned down, with the result that a proportion of East District cases are sent to Gordon ; but, in addition, use is made of hospitals nearer to the East District, belonging to other authorities, such as the Infectious Diseases Hospital at Berwick-on-Tweed for the Eyemouth District, and Belhaven Hospital, Dunbar, for the Cockburnspath District. Instead of the old ambulances there are now two motor ambulances—one stationed at Ayton, and an up-to-date 20 h.p. Austin ambulance stationed at Gordon. This latter ambulance exists primarily for the transport of tuberculosis cases, but is also used for fever cases as well as general cases, and its range of service is not limited to the County but extends to East Fortune, Edinburgh, and elsewhere if required. In its first six months of service it has run 4,988 miles.

In 1911, for the treatment of infectious cases, the county had been a unit. Now it has been recognised for years that many classes of cases should be treated in the larger hospitals outside the county area.

The various local authorities are now partners in the Border Smallpox Hospital Combination ; the County Council is a partner in the East Fortune Sanatorium Combination ;

while for such conditions as puerperal fever, cerebro spinal fever, ophthalmia neonatorum, and the surgical emergencies of measles, etc., it is found much preferable to make use of the hospitals of the Corporation of the City of Edinburgh.

Over and above the administrative control of infectious disease, a number of Acts have been passed relating to medical services which have made sweeping changes. The provisions of the National Insurance Acts are well known, and were responsible not merely for medical benefit but for the institution of the county tuberculosis scheme : the Notification of Births (Extension) Act, 1915, gave origin to Maternity and Child Welfare Schemes ; the Milk and Dairies (Scotland) Act, 1914, not merely provides for the appointment of veterinary inspectors and the inspection of dairies but lays heavier responsibility on medical officers of health in connection with the personnel of dairies and outbreaks of disease.

Mention cannot be made of the number of Regulations, Orders and Memoranda, etc., relating to single diseases or single subjects of hygienic control, subjects which cover a wide area, including such items as venereal disease, encephalitis lethargica, infective jaundice, etc.

The medical scheme of the Education Authority does not now cover only medical examination of the children, but has extended to cover schemes for the treatment of Eye, Ear, Throat and Nose, Ringworm, Skin Diseases, and deformities. Physical Training in schools now comes under the Medical Officer.

The Maternity Service and Child Welfare Committee, an entirely new authority, has now a staff of eleven whole time and part time nurses engaged in home visitation for the benefit of expectant mothers, nursing mothers, and young children under 5 years of age. This Committee has probably the most far-reaching social powers of any Committee in Berwickshire, as it not only covers home visitation, but can include a very wide range of service, from arrangements with maternity institutions and for medical specialist services, to the provision of food and milk.

In connection with the Maternity and Child Welfare Committee and the Education Authority, extensive use is made of the services of the Royal Maternity Hospital, Royal Hospital for Sick Children, and the Royal Infirmary of Edinburgh, and other institutions.

To enumerate all the various classes of service that may be rendered, and are being rendered by the authorities of Berwickshire, would cover pages of this report, and it is very doubtful if any but a very few realise exactly what can be done or what is being done.

Most of these medical schemes have been carried out in conformity with a distinct policy to utilise special facilities wherever these exist. I have never considered that this county should attempt to become self-contained as regards these services, or independent of other local authorities or bodies possessing such services, but have sought to utilise their services to the greatest possible extent if only to avoid their undesirable duplication.

In the educational administration of the county, the Executive Officer has the Education Authority on one side and the teaching staff on the other. In the case of road administration, the Road Surveyors have their District Committees on one side and the road employees on the other. The Public Health Service differs markedly from either of these departments in the wide variety of classes on which it is dependent, while its services may reach every home in the county.

Doctors, for instance, furnish notifications of infectious disease, and their invaluable services in innumerable ways are constantly in request. District Nurses and Health Visitors provide home visitational services; while health visitors, in addition, take charge of several technical services. Registrars supply copies of all death returns, birth-returns, immediate notice of deaths from tuberculosis and figures relating to conscientious objectors. As much of the Department's work is in connection with the sick poor, relationship with the Inspectors of Poor of the 32 Parish Councils is not infrequent, while on the Teachers of the 52 Schools in the County it is dependent for much of the clerical and administrative work

in connection with the medical schemes of the Education Authority, and to the teachers' interest and care is largely due their efficiency.

So far as the medical officer's personal staff is concerned, he is dependent on a staff of 15 persons, only three of whom are directly under himself, while altogether their services are provided by no fewer than ten different Committees.

On the other side of the medical officer, instead of being responsible to a single authority as in the case of education or roads, he is responsible for various phases of work to a County Council, a Joint Medical Officer Committee, three District Committees, three Town Councils, two Joint Hospital Committees, a Maternity and Child Welfare Committee and an Education Authority with 13 School Management Committees. A further Joint Committee in connection with the treatment of venereal disease is urged by the Scottish Board of Health.

When it comes to Government Departments, he has to deal with the Scottish Board of Health, Ministry of Pensions, Midwives' Board, and the Home Office.

In connection with the various treatment schemes, he deals directly with all the various institutions already enumerated, all of which have their own ways and their own regulations for the admission and treatment of patients.

It needs little imagination on the part of anyone to realise the administrative difficulties which are encountered under such circumstances. Nothing is straightforward, but nearly everything has to be done in an entangled maze of administrative procedure. Possibly if I were asked what actually caused the greatest degree of trouble, I should set it down to the number of committees who have to deal with public health and medical matters in this county and to the manner in which their functions overlap and otherwise obscure issues which are perfectly clear to anyone who carries the scheme out as a whole.

For instance :—

The East, Middle, and West District Committees, and the Town Councils of Coldstream, Eyemouth, and Lauder, are

legally responsible for the hospital treatment of infectious disease, but when it comes to actual practice we find that the County Council is responsible for tuberculosis; the Education Authority treats ringworm and impetigo; while the Maternity Service and Child Welfare Committee receives a grant of 50% of the cost of hospital treatment of puerperal fever and of ophthalmia neonatorum; while if that Committee makes provision for the treatment of measles, a grant of 50% will be paid on that also. Thus the three District Committees and the three Town Councils primarily responsible for hospital and other treatment of infectious disease have little more responsibility than for the treatment of scarlet fever and diphtheria, while even as regards scarlet fever they are dependent on the City Fever Hospital of Edinburgh for surgical emergencies.

Another instance of this administrative complexity may be quoted. The Maternity Service and Child Welfare Committee would appear at first sight to have the simplest and most easily administered of all functions. That is very far, however, from being the case. Its first responsibility is home visitation by district nurses and health visitors; but for its information as to births, it is entirely dependent on early notification of births received under the Notification of Births Act, 1907, and on special returns of births made by the registrars, for both Act and arrangements six local authorities being responsible.

Of the districts served by the part time nurses, however, not a single district is conformable as regards its boundaries with a registration district (or parish) for which birth returns are furnished by the registrar, the areas of the part time nurses being ordinarily areas round about the nurse's headquarters which may embrace portions of several parishes, with the result that if advantage is to be taken of the registrar's returns, much office work becomes unavoidable. The Maternity Service and Child Welfare Committee is primarily, therefore, not responsible for its own scheme, but is dependent on six local authorities and six nursing committees.

Public health administration is rendered still more difficult by the unusual development of the hospital and medical side of its services. For the year in question, at least 524 persons received benefit from county medical schemes. I give here a list of the main schemes of the county, with the numbers treated in institutions and by specialists, dentists, or at home :—

	Institutional	Specialist, Dental or Domiciliary	Total
Infectious Disease	125	—	125
Tuberculosis Scheme	63	31	94
Maternity and Child Welfare Scheme	14	12	26
Education	6	273	279
	<hr/> 208	<hr/> 316	<hr/> 524

The mere figures, however, convey very little as to what is actually involved in their result. In one case in a previous year, where a complaint had been made by a patient's mother that the Child Welfare Department had been neglectful, it turned out that the child in question had received two visits from myself and six visits from the health visitor for the area ; the health visitor took the child twice into hospital in Edinburgh, and fifteen letters from this office were written to surgeons in hospital and others concerned, and after these figures had been elicited the child was afterwards examined by a medical officer of the Scottish Board of Health.

In three days of one week recently no fewer than eight cases were removed by ambulance ; all but three to or from Edinburgh. In another more recent week the transport of eleven cases was arranged for, eight of them to Edinburgh, two to East Fortune and one to Gordon. These were all cases over and above the ordinary infectious disease cases.

I have written of the number of committees which deal with medical matters in this county. In this connection I may quote one experience.

In one of the schools of the county a mother brought up a boy for examination, which showed that an immediate

operation was necessary. I got into touch with Mr. Lithgow, the Aural Surgeon to the Authority and to the Royal Infirmary of Edinburgh, and he promised immediate admission. That boy, under the care of the Education Authority, was taken for one stage of his journey in a car paid for by the Child Welfare Committee, kept for a night by private arrangements with a second party, his journey being completed in a car paid for by a third party; and only his removal home was directly at the instance of the Education Authority.

In 1911, as I have already said, nothing whatever was done for the individual. Now, in 1926,

- (1) No child in any part of the county, with the exception of one burgh, need enter school with any remediable defect or deformity.
- (2) In the same area no expectant or nursing mother need be prejudiced to any unavoidable degree by her maternal function.
- (3) The days when school children could be classed as mentally defective, when all that was really wrong was defective vision; or penalised for carelessness and stupidity, when what was wrong was cataract or deafness, are now gone. There is no necessity for any school child being a single year at school with any of these defects at all.
- (4) Children and others who contract complications of infectious disease can now receive such special medical treatment as is required, in Edinburgh if necessary.
- (5) All tuberculous cases receive the benefit of institutional and medical skill.

These benefits 'by no means include all the medical benefits now available for the people of Berwickshire, and, in addition, the Education Authority has now sanctioned a dental scheme, so that very soon there will be no excuse for any school child leaving school and commencing its life work suffering from dental disabilities, which have been shown to be responsible for more sickness and invalidity in after life than any other single cause.

This wide range of medical services has been made possible first, by up-to-date administrative methods, coupled with the painstaking care of the headquarter's staff; secondly, by the co-operation of the medical profession of the county; and thirdly, by the readiness of the people of Berwickshire to take advantage of schemes intended not only for their own welfare but in particular for their children's welfare, and there is no question but that the child in Berwickshire to-day is receiving an opportunity to start life free from physical deficiency that his father and mother had not.

One of the underlying principles of the scheme of administration adopted has been to run all these schemes as one. In actual administrative practice in my office there has—up till now—been very little watertight compartmenting, but when it comes to the innumerable committees which deal with public health matters in this county it is a different story and one which can best be realised by comparison of the administration of the public health services with the administration of other county services.

Responsibility for the roads in the county is entrusted to the seven local authorities, and the expenditure involved for the financial year ended 15th May, 1925, was £98,543.

The education services for the same year cost £62,383, for the expenditure of which one Education Authority was responsible.

When it comes to public health, however, the cost of the entire medical and sanitary services for the same year, including the tuberculosis scheme, child welfare scheme, infectious disease hospitals, medical scheme of the Education Authority, and even the sanitary inspector's salary and expenses and salaries of district clerks and treasurers, came to £7,813, a mere fraction of the cost of the other services (a fraction which yet affects the health of present and particularly future citizens of the county to a degree quite disproportionate to its amount), but in this case the cost is found by 12 committees, while the staff responsible for its expenditure is provided by ten different committees.

To my mind any overlapping which may exist as a result of these numerous committees, or even the administrative entanglement involved, is very much less serious than the fact that there is not one single committee in the county which can take independent action ; there is not one single committee that can consider questions of medical policy as affecting the county as a whole, and there is not one committee with which the medical officer can confer in occasions of difficulty. These drawbacks do not apply either in the case of road or educational administration.

It is not that these administrative difficulties are not already well known. The Report of the Consultive Councils on a reformed Local Authority for Health and Public Assistance, published in 1923, reported that not only in health, but in other branches of administration, the machinery had been neglected, while the demands on it had multiplied, and the Committee gave it as their opinion that the concentration of all health services in one local authority, if possible, for each area should be the immediate aim of reform.

Three suggestions were given in the Report by which one health authority could be achieved, viz :—

- (a) The creation of a new *ad hoc* authority directly elected for health purposes ;
- (b) The formation of a joint committee representative of all the existing health authorities in the proposed area ;
- (c) The transfer to one of the existing authorities of the health powers of the other authorities.

The suggestion under paragraph (a) means an entirely new authority, while the suggestion under paragraph (c) would mean the transfer of all health powers to the County Council of Berwickshire. Both these suggestions would require Parliamentary enactments and need not, therefore now be considered. Some action, however, might be taken over the suggestion in paragraph (b). A step in this direction has already been taken by the Gordon Hospital Board, by their recent decisions to pool all ambulance charges and to pay—

through the Board's Clerk and Treasurer—for all infectious disease cases requiring treatment in Edinburgh, whether sent directly from their homes or indirectly through Gordon Hospital. If the two Hospital Committees of the County would only agree to combine and pool these charges all over the County one step towards the simplification of the administrative public health machine would automatically follow. All the Regulations, Circulars, and Memoranda issued by the Scottish Board of Health which deal with individual diseases, such as encephalitis lethargica, cerebro spinal fever, spirochaerosis icterohaemorrhagica, etc., subjects with which not a single local authority in the county can deal on its own, could be automatically referred to this committee, as it would be representative of all local authorities. There is no reason why it should not take over the treatment of venereal disease cases, and even undertake the duties under the child welfare scheme, and as it is a committee with its own clerk and treasurer and its own banking account, there is equally no reason why it should not ultimately take over the health staff. Being representative of all the sanitary authorities in the county, it could consider questions of medical policy in a general way as affecting the county as a whole, and the general administration of the public health machine would be much simplified. I leave this suggestion with the various committees concerned.

APPENDIX I.

Report on a Series of Cases of Suspected Lead Poisoning in the East District of Berwickshire.

(1). For the explanation of the origin of this enquiry reference must be made to my Public Health report for 1924, pages 22 and 23, a copy of which is attached.

(2). The central facts of these pages lie, firstly in Dr. Affleck—on purely clinical grounds—having given a death certificate on 27th June, 1924, in which the primary cause of death was entered as lead poisoning; and, secondly, in lead subsequently having been found to the extent of 0.095 grain metallic lead per gallon in the water which the patient consumed.

(3). In the other houses implicated there were illnesses, vague or definite, or at least conditions of health which Dr. Affleck attributed to possible lead poisoning—on clinical grounds again. Medical opinion might vary as to the actual cause of these physical conditions, but after the facts given in paragraph 2, it is not possible to dismiss Dr. Affleck's notifications without further enquiry.

(4). Enquiry, however, was delayed owing to the excessively wet nature of the winter, which would have rendered the deductions to be drawn from chemical analyses extremely misleading. The most probable time in which lead would be obtained in waters would be in heavy rain after a period of drought, and that weather condition only occurred for the first time in a long period quite recently.

(5). Before proceeding further, I should explain that the cause of plumbo-solvency is held to be due to the presence of acid which is a result of the acid-producing activities of certain bacteria in moist peat.

These acid waters coming from moist peat have the power of dissolving not only bright lead, but old coated lead, at a very rapid rate.

These lead-dissolving waters must not be confused with lead eroding waters. Waters containing dissolved oxygen have the power of eroding lead, although, as a matter of fact, most potential lead eroding waters do not do so, as most of them contain chemicals which coat the bright surface of the metal and so prevent further erosion. Some waters, of course, may both dissolve and erode lead.

In Berwickshire the lead eroding properties of some waters are well known. In Gordon Hospital a new cistern was nearly eaten through in some places before the damage was discovered. In that

and other such instances plumbers apply a mixture of resin and tallow to keep the water away from the lead, and this method of treatment apparently proves satisfactory.

Lead dissolving waters are not brought to notice, however, unless the effect is on human beings, as there is no trace of damage to plumbing work to direct suspicion to the water.

(6). It will be gathered from the preceding paragraph that moorland waters are particularly liable to be acid in reaction, and accordingly are most likely to cause trouble through dissolving lead. As a matter of fact, this is what is found in practice.

Of the reported plumbism cases notified by Dr. Affleck, the water supplies come from moorland or peaty sources in the Grantshouse, Coldingham, West Loch Lodge, Quixwood, and Northfield instances. The water supplies to Mill House, Reston, South Lodge, Houndwood, and Reston Schoolhouse do not come from peaty areas. In all cases, however, the water was acid in reaction, the acidity in terms of H_2CO_3 varying from 2.12 parts per 100,000 to 4.25 parts per 100,000. The free acidity of the moorland supplies varied from 2.12 parts in the Quixwood supply to 4.25 parts per 100,000 in the Northfield supply. Of the non-peaty waters the free acidity varied from 2.55 parts per 100,000 in the case of Reston Schoolhouse to 2.45 in the case of the South Lodge, Houndwood.

(7). The potential lead dissolving properties of a water may be taken as proportionate to the free acidity*. It is obvious, therefore, that these moorland supplies must be looked upon as potentially dangerous if long lengths of lead piping, or lead cisterns in which water is allowed to stand for considerable periods, are used,

In the case of the Coldingham supply, Dr. Stevenson McAdam, the County Analyst, in 1916 wrote "waters of this class are likely to cause inconvenience, more especially during the warmer months of the year, and they may dangerously attack lead if such is used for conveying or storing the water."

As a matter of fact, only in the case of the two Grantshouse houses was lead discovered in the water, and in these cases the water was conducted to the houses through 230 yards of branch lead piping. This lead pipe has been taken up and a 2 inch iron pipe substituted.

In the case of Coldingham the water is led to Miss Pringle's tap through, I understand, 200 yards of lead pipe.

(8). In view of our experience at Grantshouse, and of Dr. Stevenson McAdam's warning, as well as of recent chemical examination, it would be wise to substitute an iron pipe for the lead pipe in Coldingham at once. There is no use waiting until further trouble arises.

* See paragraph 11.

So far as the other houses are concerned, only the Reston houses appear to have lengths of lead piping or lead cisterns in which water may stagnate. No lead was found in the examination of these waters, and in the case of the others none could have been expected.

(9). Nothing can be said as to the cases themselves now, but it seems to be more than a coincidence that the death certified at Grantshouse primarily from lead poisoning should have occurred in a house supplied by a decidedly acid water in which lead was discovered in dangerous amount.

(10). It is a matter of regret that the investigation must end here meantime, but in dealing with water supplies and plumbing systems generally, it would appear urgently necessary, in dealing with small individual supplies such as one meets with in a county such as Berwickshire, to take cognisance of the reaction of the water, its hardness and the presence of silica or silicates. The researches of the English Board of Health into the relation of water supplies and lead poisoning in various districts of England, as published in the Supplement in continuation of the Report of the Medical Officer, 1900-01, laid stress almost entirely on the peat-bacterial cause of such lead dissolving waters, but it would appear that not only may these bacteria be primarily responsible but that waters containing sodium bicarbonate may also be responsible for the solution of lead.

(11). It may be added, as a supplement to the foregoing report, that a considerable amount of work has been done in connection with the presence of lead in water supplies by Thresh and Beale, who have attempted to clear up the mysteries and discrepancies in connection with the subject. It may be said, without going into their work in detail, that they controvert the findings in the Local Government Board Report on the action of moorland waters on lead so far as the lead-dissolving and lead-corroding properties of waters are concerned. They observe that where a water has a hardness of about 2 degrees (Clark) the action of lead was practically negligible. It is interesting to note that the temporary hardness (Clark's Scale) of the lead contained in the Grantshouse supply was 2.5 degrees, while the total hardness was 5.5 degrees. With this exception, the lowest degree of hardness in any other water, and that only in the Houndwood water, was 6 degrees of temporary hardness. In the case of the Coldingham water no previous analysis showing hardness was available. According to Thresh and Beale, therefore, the action on lead of these waters would be practically negligible. As no silicates were tested for by the chemist it is not known to what extent they may be present and also nullify the action on lead.

This supplement does not interfere with the conclusions come to in paragraphs 8 and 10.

APPENDIX II.

Memorandum on Construction of Hospital Wards at Millerton Hospital.

(1). This Memorandum has reference to the construction of new wards at Millerton Hospital, Ayton, to replace the wards burned down in January, 1924. In preparing the Memorandum, I have taken into consideration my reports on Millerton Hospital from the year 1911; the Report of the Commissioners of Enquiry from the Local Government Board for Scotland in 1914; our experience in epidemic matters for the year 1924, and the desire of the East District Committee for a hospital of approximately 20 beds. The Memorandum will not be so complete as I would like it, as it has been drafted under great difficulty, and its deficiencies will require to be supplemented by subsequent consultation with the Committee's architect before any formal plan can be submitted to the Scottish Board of Health for approval under Section 66 (3) of the Public Health Act of 1897.

(2). (a) In considering the general lay-out of the hospital regard must first be taken of the classes of infection for which isolation accommodation is required. The old-time principles of laying out fever hospitals have been superseded by methods providing for a much higher degree of efficiency and adaptability. Gordon Hospital may be cited as an instance of an old type hospital, where its three blocks were originally intended to be reserved for particular diseases—one block for nothing but scarlets, another for nothing but diphtheria cases, and a smaller block for typhoids. In actual practice the incidence of different varieties of epidemic disease practically never works out according to any preconceived ideas of arranging accommodation. At one time there may be nothing but scarlet fever cases; at another nothing but diphtheria; at another nothing but measles or pneumonia, with the result that hospital wards originally intended for special diseases either have to be used for whatever disease is prevalent at the time or else have to stand empty.

(b) The provision of hospital accommodation for infectious diseases is further complicated by the fact that the eleven diseases originally notifiable in terms of Section 6 of the Infectious Disease Act, 1889, have now been more than doubled under terms of Section 7 of the same Act or in terms of Orders made by the Local Government Board for Scotland or the Scottish Board of Health, and these added diseases include infectious diseases which are not only much more prevalent but infinitely more deadly than the diseases formerly alone notifiable.

(c) Another complication has been introduced into infectious disease hospital administration by our present day knowledge of bacteriology as compared with that of 15 or even 10 years ago. It is not long since all cases of scarlet fever were indiscriminately slumped together, and no effort was made to divide up simple and complicated cases of scarlet fever from those with septic or bacterial complications. It is now considered practically criminal to allow a septic case of scarlet fever to be treated alongside a simple and uncomplicated case in such a manner as to allow bacterial infection to be transferred from one to the other. In Gordon Hospital, during 1924, the hospital had not only to deal with straightforward cases of scarlet fever but with scarlet fever of the malignant variety or practically verging on the malignant variety; scarlet with septic throats, with diphtheria, with measles; while other scarlet cases developed adenitis, otorrhœa, mastoids (which were sent to Edinburgh for operation), nephritis, arthritis, meningitis, etc. Such cases should not be treated in ordinary wards, but isolated. To isolate such cases, on the other hand, in an old fashioned hospital may mean the reservation of whole wards for single cases to the exclusion of all others.

In Gordon Hospital, during the year 1924, I have known at one time of several wards having to be reserved for such cases, while other cases had to met elsewhere.

From these facts will be deduced the immense amount of attention now paid to the nose and throat and the danger of infection therefrom. As a matter of fact in scarlet fever, desquamation or "peeling" is looked on as practically non-infective, the danger lying almost entirely in the throat and nose discharges. Where children are kept in wards with other sick cases and discharged direct to their homes, it is found that, no matter what precautions are taken to avoid after-infection, a certain proportion of return cases invariably occur. This proportion of return cases can be much diminished by taking the child out of the atmosphere of the sick-ward during its convalescence and by keeping the child in a convalescent ward, or at least in a ward away from actual sickness, and giving it as much open air as possible.

(d) The question of infection has also a bearing on treatment, as fresh air and sunshine are shown to have a markedly beneficial influence upon all classes of cases, the value of the ultra-violet rays only now being beginning to be appreciated, and therefore verandahs are generally provided for open air treatment.

(e) In order to comply with the foregoing premises, the present stereotyped mode of constructing fever hospitals is to make provision for the treatment of as many separate infections as possible. Methods vary with the size of the hospital and its manner of administration, but, so far as small rural hospitals are concerned, the usual way is to build one block on the cubicle system in which varied classes of infections

may be isolated, and another with two larger wards for the accommodation of cases of the same type during epidemics.

(3). I would therefore recommend that at Millerton Hospital two blocks be erected, one with six cubicles for the accommodation of special cases, and a second block with two six-bedded wards for the accommodation of cases similar in type during an outbreak.

(4). As regards the orientation of these blocks, according to the Board's instructions, they should run north and south or from a little east of north to west of south in order to get the maximum amount of sunshine into the wards.

(5). In view of the fact that the last block was destroyed by fire, and that serious consequences might have ensued had there been any number of sick people in the building, the new blocks should be as fire-proof as possible in their construction. The walls should preferably be hollow brick or a brick screen, and wood should be replaced by light steel girders for the support of the roof.

(6). The walls should be of plaster, first painted and then coated with at least two coats of the finest quality enamel. The floors of the wards and cubicle should be of hard wood absolutely smooth and capable of being polished, and at the junction of floor and walls convex strips of wood should be fitted not only to abolish corners but to prevent walls being damaged by articles of furniture being pushed up against them.

(7). I have enclosed a rough sketch plan of a part of the cubicle block. It will be noticed that the plan makes provision for a duty room in the centre. The central part of the building not only includes the duty room but also a linen room, a store room for patient's clothes, a large cupboard or store room for brushes, etc., a pantry, a bathroom with the bath in the middle of the floor, a plunge room, a staff lavatory; while at each end of the building are patients' w.c.s. and wash hand basins. As in the cubicle block, all classes of cases may be nursed at the same time—from scarlet fever to dysentery. Provision has been made for a wash hand basin at each end of the building for doctor and nurse. The partition walls are also made from about four feet up of glass, in order that a nurse on duty may have an uninterrupted view of all the cubicles. It will further be noticed that the open corridor has practically no side, and only a glass roof, and all the doors are so constructed to allow easy removal of beds, while on the other side is a ten foot cement terrace to enable patients to have the benefit of open air treatment, with folding windows to enable beds to be wheeled out on the cement terrace.

(8). I have not had time to draft a sketch plan of the other block with the larger wards, but it should be exactly on the same lines as the cubicle block, the only difference being that it should have, in addition,

a room to serve as a doctor's room for drugs and instruments, with writing desk, etc. ; with a w.c. and wash hand basin off it ; and also a small side room in which a case supposed to be of a similar type to those in the wards could be detained until specially examined by the Hospital Physician.

(9). As will also be realised, a nurse handling different varieties of infectious illness in cubicles must be a trained nurse. The domestic servant type will probably do damage, and, consequently, an addition to the administrative block may be necessary.

(10). Heating must be by radiators. A common boiler could be arranged for both wards, or each ward could be fitted with a separate small boiler of its own. The provision of hot water for baths could either be arranged for from a common boiler or instead of that, small stoves, such as the "Sentry" or "Glow Worm," could be placed in the duty rooms. All hot water storage tanks and hot water pipes should be lagged with such preparations as Keenan's Asbestos Tape, Keenan's non-conducting composition, or other similar preparation.

(11). If not already provided, there should also be arranged a garage, a mortuary, a disinfection and laundry block ; and a small installation of electric light would be preferable to the acetylene gas.

